

Hamilton (Fr. H.)

ALIMENTATION IN SURGICAL ACCIDENTS AND DISEASES  
AND ITS GENERAL VALUE AS CONTRASTED WITH  
THE VALUE OF MEDICINE.

BY

FRANK H. HAMILTON, A. M., M. D., LL. D.,

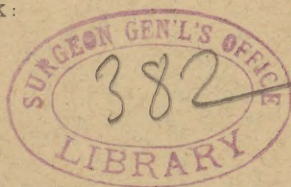
Surgeon to Bellevue Hospital, Etc.

READ BEFORE THE NEW YORK ACADEMY OF MEDICINE.

(Reprinted from the HOSPITAL GAZETTE AND ARCHIVES OF CLINICAL SURGERY, Jan. 15, 1878.)

NEW YORK:

1878.



Mr. W. C. Williams

March 4, 1888

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The old and homely adage, "starve a fever, and stuff a cold" probably teaches a double fallacy. At any rate, in the light of modern experience it would be an error to starve a fever; and it is not quite clear that it is well, in all cases, to stuff a cold; yet the second limb of the proposition is much nearer the truth than the first.

It is believed, to-day, that nearly all fevers are brought to a more speedy and satisfactory termination, if, during their existence, the vital functions are supported by nutriment, judiciously administered; and the practice is now considered "judicious" when nutriment is administered with a liberality not deemed safe by our fathers.

These later opinions seem to be sustained by careful observation, and they are at present taught by all of our most experienced and intelligent medical writers. Comparatively few, however, have sought to enforce the same doctrine when speaking of surgical accidents and diseases, or of acute or chronic local inflammations. Yet I am persuaded that most surgeons entertain opinions in harmony with my own, and that their practice has in this regard—that is to say, in the matter of alimentation, undergone within a few years the same change as has the practice of physicians in regard to fevers. In what I have to say upon this subject, then, I do not pretend to originality; but my purpose is simply to record and give prominence to certain accepted maxims of practice which have not yet received the form of precepts.

The doctrine which I desire to support is, that nearly all surgical accidents and diseases demand alimentation—that furnishing such nutriment

\*Read before the New York Academy of Medicine, Jan. 1878.

to the heart and lungs, and to the other vital organs, as shall enable them to perform their respective functions without labor and with fidelity, seldom or never causes an increase of existing inflammations, or aggravates traumatic fevers or other general disturbances dependent upon traumatic accidents. On the contrary, the doctrine teaches that most traumatic fevers and inflammations demand nourishment as one of the most important, and often absolutely essential means of prevention and of cure.

When surgeons began to treat surgical accidents without the use of the lancet, the first important step was taken in the reform of practice in this direction. You know it is not long since, that when a man was shot through his lungs or belly, he was at once bled to prevent inflammation; and if the inflammation was not prevented, as in most cases, certainly, it was not, the patient was bled again and again to syncope. From three to a dozen bleedings were sometimes required to terminate the case; yet, in spite of the bleedings, the case did not always terminate favorably. The inflammation was sometimes only extinguished when death occurred. Men were bled, and leeches, and cupped for sore eyes and for sprained ankles, and for bruised shins, and for broken bones; and women were bled, and leeches, and cupped for inflamed breasts, and for the traumatic and septic fevers consequent upon childbirth. All this, with us, is changed now. During our great civil war, I never saw a surgeon bleed for a gunshot wound, and blood-letting is almost an obsolete term in modern gynæcology. I am speaking particularly of what has occurred in my own country; for I know less of the changes in opinion and practice which may have taken place abroad. On the continent, I believe, a marked change has taken place in the practice of surgeons since my first visit to Europe in 1844, and perhaps not so much in the practice of British surgeons, who still continue to bleed quite freely, in gunshot injuries especially. I must be understood, therefore, to be speaking only of American practice, in reference to which my knowledge is more precise.

When bleeding was so much practiced, antimony and low diet were its natural and inevitable adjuncts. Antimony disappeared with the lancet; but low diet, and "absolute" diet—a term employed to designate the extreme of low diet—have held their ground longer than the lancet or antimony. Even physicians, who were the first to abandon the system of low diet in fevers, did so reluctantly, and not until long after they had given up the lancet. Thinking, probably, that if experience had shown that the quantity of blood in the system had less to do with the progress and severity of fevers than they had formerly supposed, its quality at least, must be considered, and that nourishment rendered the blood more stimulating, and thus supplied fuel to the fire. This opinion they no longer entertain, or, to say the least, it is very greatly modified.

In the practice of surgery, I now very often hear the value and importance of nourishment spoken of where formerly a low diet was enjoined, and this seems to me to be the second step (a less resort to the lancet being the first) which surgeons have taken or are prepared to take, in the treatment of surgical accidents.



I take this opportunity of saying that, possibly, as has been hinted now and then by late medical writers, the type of fevers and of inflammations has undergone a change in the human family, and especially since the period when the Asiatic cholera spread over the world, or since the period when typhoid fevers became more prevalent, and that possibly the general use of anæsthetics has determined a change also in the character of traumatic inflammations. In view of which possibilities, the change in practice would not imply that physicians and surgeons were in error when they adopted in all these cases what was then spoken of as the 'antiphlogistic' treatment; but that the diseases having changed, an observing profession had properly changed its practice, also, to suit the new exigencies. These points I do not propose to discuss; but only to state my conclusions from the facts as they are now presented in our daily experience.

There ought to be no misunderstanding as to what is meant by alimmentation in diseases or in traumatic injuries. Food, that is, meat, vegetables, etc., are not of necessity aliment simply because they have been conveyed into the stomach. They need to be digested and properly assimilated before they can be regarded as nourishment; and it is unnecessary to say that the stomach, with the other organs of digestion, are not always in a condition to extract nourishment from all kinds of food, or even from the most nutritious food; but that, on the contrary, the digestive organs are notoriously capricious, refusing at one time what they readily appropriate at another. These conditions unfavorable to assimilation being present often when we consider ourselves in health; but they are almost constantly present, in a greater or less degree, immediately after the receipt of a severe injury, and in many cases during prolonged local disturbance; that is, during the progress of recovery from severe local injuries.

A severe shock to the nervous system, such as is produced by a grave injury, by a painful and exhaustive surgical operation, by prolonged anæsthesia, and by sudden and afflicting news, may for a time paralyze nearly all the functions of the body, if they do not cause speedy death; and in this general paralysis, the stomach participates with the other organs, in consequence of which digestion suddenly ceases or is greatly impaired. The food which may have been at the moment contained in the stomach, remains to undergo putrefaction, and becomes a source of irritation and of distress, causing, in some cases, nausea and vomiting, and in other cases a copious diarrhoea, or both at the same time. The occurrence of either of which phenomena may be regarded as a natural and safe mode of relief; but if neither occurs, a complete restoration of the powers of digestion and assimilation cannot be looked for until the offending matters have been removed by the aid of drugs, or more slowly by delay and simply omitting to urge food upon the stomach for several days, during which time this organ will, in most cases, gradually unload itself.

It may happen, also, that for a considerable time after the offense is removed, the stomach will remain irritable or exhausted, and fail to per-

form its duties, demanding appropriate medicines to overcome these derangements.

Under these conditions, and probably under others which have not been named, rest or medication may be most important, and ought to precede all attempts at alimentation; and simply because alimentation is now impossible. But the time soon arrives, in nearly all cases, in which alimentation is possible, and then there ought to be no delay in the use of appropriate food. I say *appropriate* food; for it is well enough to repeat that a sick man may starve while attempting to extract nourishment from plentiful supplies of tough or badly cooked meats, or from food which, while it is in all other respects unobjectional, is to the patient's capricious stomach disgusting or simply distasteful, and will not, therefore, either provoke a flow of saliva or of gastric juice.

If the food is not appropriate, the patient who receives it will not only suffer from lack of nourishment, but also from the irritation caused by the presence of undigested, and, consequently, irritating materials. *Such attempts at alimentation will certainly increase febrile action and aggravate inflammation.*

The fact is, however, that examples are exceedingly rare in which some feeble ability to digest food does not exist; and even in these exceptional cases, a judicious selection and timely administration of certain articles seldom fails to produce an appetite, or at all events to convey to the system some nutrition. A warm, well seasoned and well cooked cup of broth, or a fragrant cup of hot coffee and milk, will often relieve nausea and epigastric distress, assuage a colic, diminish the severity of a headache, lift the tone of the nerves suffering under shock; and the same or similar means will often abate sensibly febrile disturbance and and soften the pains of inflammation. Who ever knew of harm from food under these circumstances, when carefully and judiciously administered? I am, at least certain, that for every case in which it can be shown to have done harm, twenty cases will be found in which it has done good.

Medicines—so called—are in general far inferior to a warm and savory cup of food, as peptic persuaders; and I have seen many patients suffering with nausea and loss of appetite, who have been speedily relieved by the mere omission of the bitter and disgusting tonics which have been forced upon their reluctant stomachs. It is true that, under the circumstances referred to, now and then good medicines do good and improve the appetite; and their occasional abuse or unskillful exhibition is no reason why they should never be used. Nevertheless, I wish to say, very emphatically, that the abuse of medicines is more than "occasional." It is alarmingly frequent. It is simply elementary truth, that there are many diseases and surgical injuries in which recovery takes place as speedily without medicines as with medicines; and if any medical man has not learned this, and continues to give drugs from day to day for every form and grade of human ailment, so much the worse for him and for his patients.

But if men can live and recover from disease sometimes without med-



icines, no man can live and recover from disease without food. Organs which are maimed and struggling must have food, or they will soon cease to labor, and will die. A wound will not heal nor a bone unite without nutriment. In every human malady and surgical accident, repair and recovery wait on nutrition.

It is not improper, then, to say that as a means of restoring the sick and wounded, when both may be needed, good food is more important than good medicine. Large armies have always suffered more from a deficient supply of proper food than from a deficient supply of proper medicines.

One conclusion to which my statement of facts and process of reasoning leads me is, that hospitals and dispensaries ought to have the means and appliances for supplying to the sick, infirm, and maimed who come to them for help, not only medicines and skilled medical and surgical services, but also an abundance of nutritious food; indeed that the question of food ought to be the first, where it is generally the last consideration.

There is an impression among many laymen, who have the charge of hospitals, that "extras," including eggs, milk, etc., with the services of the "diet kitchen," ought to be reserved for the few who are very seriously ill, and that all the slightly ill or convalescent should be content with the "ordinary" diet of the hospital, which is seldom very attractive to even a sound stomach. Those who have had experience in the United States army hospitals know that this was never the theory or practice of these hospitals; but that all of the regular rations were commuted, and with the money thus obtained nothing but what might be termed "extras" were purchased.

If a man is able to eat hard-tack and salt pork, or tough beef and unsavory soups, he is able, generally, to go to work, and ought not to remain in the hospital. Though well in other respects, and detained only because his broken limb is not thoroughly repaired, it does not follow that he can eat and digest what he could easily master when working out of doors, and carrying brick-hods to the top of five-story buildings. If it is an object to get these men speedily out of the hospital, and thus save the tax-payers; if it is desirable to restore them soon to their families, of whom they may be the sole support, then it will be necessary to give them food which will encourage an appetite, and be easily digested by a stomach weakened by long confinement, sickness, and anxiety. They must be treated in this respect in the hospitals, as we—you and I—are treated at home, where the utmost care is taken to see that our food is suitable and appetizing; where although we may have ceased to take medicine, so long as we find ourselves unable to return to our usual outdoor duties, we are fed only upon "extras". These same poor people, inmates of the hospitals, if they were at home, in their own humble apartments, would be fed better, so far as the quality and mode of preparing the food is concerned, than they are in most public hospitals. No pains are spared, generally, to furnish to the poor all the medicine they need; but what they want most, and get the least, is good food.

The medicines and liquors dispensed at Bellevue Hospital during the

six months ending July 1, 1877, cost \$7,750; and for all the charities and prisons under the charge of the Commissioners of Public Charities and Correction, these two articles cost, for the year 1876, \$40,892; about one-fourth of which, the apothecary informed me, was for liquors; leaving a balance of about \$32,200 as having been expended for other medicines than stimulating liquors. Possibly a much larger sum has been expended for "extras" in the same institutions. Upon this point I am not informed, but my long connection with this, and other civil hospitals, enables me to say that it is generally more difficult to obtain proper food, and a supply sufficient for the demand, than it is to obtain good medicines and in sufficient quantity.

In these remarks there is no imputation upon those excellent and humane gentlemen who are in charge of these institutions. In my opinion we are alone responsible for this state of facts, inasmuch as we have hitherto failed to urge upon them and the public the greater importance of nutriment and the comparatively less importance of medicine.

Some intelligent men and women, not of our profession, have seen the want before we have, and they have established in various parts of the city diet kitchens, to supply the very want of which I am speaking, and which are properly made subsidiary to the dispensaries. There ought to be one immediately connected with every dispensary, and in the same building as the drug store now is. Indeed, I would be glad to see one-half of the drug stores, and all of the liquor stores converted into diet kitchens. I am not quite certain that they need all to be eleemosynary in their character. It is possible they might, some of them, be self-sustaining. They will not have to be taxed like liquor shops, to pay for the crime and pauperism they create—nor will they kill as many people by accidental overdosing as do drug shops, not to speak of the deaths from overdosing caused by the prescriptions of illiterate and careless doctors. Those who have them in charge will not require a very long apprenticeship, and need know nothing of latin. Very few of their materials will have to be imported, and they will require very little advertising. So that all in all these diet kitchens can be run very cheaply.

You will not consider it out of place, I trust, if I read to you the opinions of a professional athlete, Mr. J. M. Laflin, as reported in one of our morning papers—the *Herald* of October 21, 1877. He is speaking upon the subject of diet in training.

"In the first place, there are at the present day many young men who are preparing or training for athletic pastimes or pursuits who naturally apply for instruction as to diet to some professional athlete, who gives them the stereotyped advice: 'Eat plenty of rare meat.' Now this advice would be all well enough, perhaps, if the stomach of the one asking advice was as strong as that of the one giving the advice; but it is not, of course, and so, as it requires a great deal of tone and strength in the stomach to digest rare meat, the beginner in athletics finds himself unable to digest the rare meat he eats.

"Then in the second place, nothing is well digested in the stomach against which the palate revolts. In many instances—myself for example



at first—the taste of very rare meat is very unpalatable indeed, and to overcome this difficulty, recourse is had to all sorts of spices and condiments to render it more pleasant. Most spices and condiments are pernicious in the long run to digestion, and so rare meat, eaten under these conditions, becomes positively injurious.

“Meat ought to be neither rare nor what is called well done, but medium, so as to be palatable without spices, etc., while at the same time it retains a large share of its natural juices.

“More harm has probably been caused by this notion of rare, underdone, bloody meat being wholesome, than by any other idea on the whole subject, and the very first thing, young men, especially young men luxuriously nurtured, who take a personal interest in athletics should do is to abjure this notion altogether.”

In these opinions I fully concur; and if Mr. Laflin's opinions are sound in reference to the eating of raw and highly seasoned meats by those who are in health, it is quite certain that this, to civilized palates, disgusting and over seasoned food is unsuitable for the sick, and it would be well if medical men would give attention to the common sense and practical remarks of this gentleman.

GENTLEMEN.—The remarks contained in the preceding pages are by no means intended to be exhaustive of the subject of which they treat. They are simply suggestive, and are intended to call attention to a point in the therapeutics of surgery upon which, as it seemed to me, too little had been said and written.

In order that you may better understand what these suggestions are, and that, in the discussion which is to follow, you may be prepared to give with more directness your assent or dissent, I will make the following brief summary:—

FIRST.—Chronic or low and persistent forms of inflammation are most apt to occur. idiopathically and as a consequence of traumatic lesions, in persons who are imperfectly nourished, and they are followed by the most serious results, such as ulceration, caries, necrosis, etc.

SECOND.—Chronic inflammations are seldom permanently overcome until by proper nutrition the general system is brought up to the standard of health. Not until all the various functions of the body are performed with vigor and fidelity—a condition which implies perfect nutrition.

THIRD.—Acute inflammations are most apt to occur idiopathically, or as the result of traumatic lesions, in persons who are imperfectly nourished; and are followed by the most serious results, such as suppuration, pyæmia, erysipelas, etc.

This statement is not inconsistent with the fact that people grossly fed, and intemperate in the use of stimulating liquors, such as gourmands, beer drinkers, whiskey drinkers, etc., are notoriously liable to rapid and destructive inflammation, as a consequence of traumatic injuries.

These people although they may be fat and ruddy, and although they may possess, as do the beer drinking porters of London, great muscular power for momentary exertion, have no endurance, and never make good soldiers. It is true they are probably sufficiently nourished, that is they

have taken in and assimilated a sufficient quantity of proper food, but its quality is changed by the large amount of effete and inflammatory elements with which the blood is constantly loaded. These men are not therefore, in any proper sense healthy, or *well-nourished*.

Nor is the statement contained in this third proposition, inconsistent with the fact, that people who are simply fat, but who are not intemperate in eating or in drinking, are, perhaps, more subject to inflammation, or to say the least, to some of its dangerous sequelæ, especially suppuration.

Fat implies nutrition, but not, when in excess, healthy nutrition. Fat is a tissue of low organization, and under inflammation, is peculiarly liable to destructive metamorphoses,

Finally, acute inflammation and its sequelæ or accidents are least liable to occur, and are most easily prevented in the well nourished, but temperate, thin and dry people.

FOURTH—It seems a necessary corollary from the preceding or third proposition, that in order to the prevention of acute inflammation after traumatic injuries, and in order to cure acute inflammation after it has commenced, and in order to prevent its accidents or dangerous sequelæ, it is well, if not absolutely necessary, to nourish the patient through each of these several periods.

I believe this to be true, yet there are some facts of experience which seem to render the truth of the statement questionable; and it is, perhaps, the only one of my several propositions which is liable to a challenge.

There can be no doubt that bleeding, antimony, cathartics, with absolute diet and cold applied locally, that is to say, the old-fashioned "antiphlogistic" treatment has often and may again, bring certain acute traumatic inflammations to an abrupt and favorable termination. It will be another matter to consider, whether the same end could not have been accomplished as speedily by other means, and with less drain upon the vital forces, and with less danger of subsequent accidents and relapses. The question, at this moment, is, whether acute inflammation has ever yielded to "antiphlogistic" treatment, and I answer that it has, but probably more often formerly than now.

The farther question which at once suggests itself is, with this admission, how are we to reconcile the fourth proposition, namely, that nutrition does not prevent, but probably aids in the cure of acute inflammation?

The line of argument by which I reconcile the apparently conflicting propositions is this:

I. Antiphlogistic measures are means calculated to relieve temporarily local congestions, and consequent stasis, and painful pressure which are among the first links in the chain of inflammatory processes,—that they do nothing more, and if they fail in this, as unfortunately they do in too many cases, then they have in no way abated the inflammatory process, while they have rendered the tissues doubly susceptible to its destructive influence.

II. My own experience in the use of nutrients preceding the occurrence of traumatic inflammation and during its progress, has brought a con-



viction that nutrition is at all times harmless and often necessary.

III. It seems to me, as I have stated before, a necessary inference from the third proposition, the correctness of which proposition will not probably be questioned.

FIFTH.—Food is not of necessity aliment. It ought to be appetizing and digestible.

SIXTH.—The stomach is not always in a condition to digest and assimilate food; but this condition is exceptional. Such cases demand rest or medication.

SEVENTH.—Anæsthetics, morphine, and other narcotics, generally impair digestion, and this fact should always be taken into consideration when for sufficient reasons their exhibition becomes necessary.

EIGHTH.—There is a popular inclination to the excessive use of medicines of all kinds in the class of diseases now under consideration, as well as in all other diseases, and which medical men seem powerless to resist unless they adopt a fraud, pretending to give medicine when they do not. They often interfere with the success of our operations, and prevent recovery from accidents. My experience has been pretty large in this matter, and if my accuracy of observation has been equal to my opportunities, morphine has killed nearly as many men as have bullet wounds of the belly; not that most of these men would not have died of the wounds if let alone, but that the morphine has done sooner what the bullets would have probably done later.

Do not, gentlemen, understand me as denouncing morphine as a proper agent to be employed in bullet wounds of the belly, but only its abuse; an abuse which commences very often before the patients come under our notice; and especially is this true, in my experience, where patients have suffered injuries and are brought to the public hospitals. They are almost constantly overdosed with morphine when they arrive.

NINTH.—Nutrition is always safe and proper.

TENTH.—We need more good food for our patients—especially in the public hospitals—more diet kitchens and fewer drug stores everywhere.

Finally, permit me to say, that I am aware of the danger of accepting doctrines as a substitute for facts, which former are too often specious but unsound. It is not always safe in medicine to attempt even to formulate facts, but on the contrary, it is safer sometimes to let every fact stand alone and by itself, and thus compel each separate fact to force its own conclusions.

Whatever in the preceding remarks seems to be only theoretical you are not asked to consider, but only how far your experience in the management of the class of injuries treated of, corresponds with, or differs from that of the writer.

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In the debate which ensued upon the reading of the foregoing paper, Dr. Leonard Weber, while endorsing in the main the sentiments of the writer, considered that belly wounds demanded the use of morphine rather than nourishment.

To this Dr. Hamilton replied that the exception was well taken ; that it was entirely true that in the case referred to, it was for a time more important to give morphine than nourishment ; indeed, that at first morphine was necessary and food inadmissible ; but the reason was this : the morphine was necessary to prevent that peristaltic action which always resulted from a wound of the gut, and which action was likely to increase the inflammation, and to expel the contents of the gut into the peritoneal cavity. It was also needed to allay pain, which was apt to be excessive in these cases. While, on the other hand, food must be prohibited, because the reception of either solids or fluids into the stomach was almost certain to awaken that peristaltic action which it was so important to prevent. Food was then withheld, not because nutriment would, in itself, aggravate the inflammation ; but solely because it would prove an excitant to the muscular fibres of the stomach and intestines, in the same manner that a pebble or a glass of water would.

Dr. Hamilton said that his objection to morphine in these cases had only reference to its abuse. That it ought to be given in sufficient quantities to subdue pain, and to arrest the peristaltic action of the intestines ; but that, when given to the extent of causing tympanitis and retention of urine, as it often was, it was hurtful. Whenever, in such cases, he found tympanitis, whether it was caused by morphine or the bullet, and it was generally the former, his prognosis was unfavorable. The tympanitis implied an arrest of the process of digestion, and the consequent formation of gases.

If this condition were induced by "shock," or by the activity of the inflammatory process, it would certainly be a sign of danger. When caused by morphine it equally implied a paralysis of certain functions and was in so far a complication, that the distention of wounded intestines by gases must facilitate the escape of these gases into the peritoneal cavity ; and with this explanation we can see how the excessive use of morphine in these cases increases or hastens this fatal issue.

Dr. Alfred C. Post thought the writer might not be fully understood, and that there were certain acute febrile states in which alimentation would not be tolerated. He also thought the question of rare or well cooked meats was a question to be determined by the kind of meat and by taste. Black meats require less cooking than white.

Dr. Andrew H. Smith remarked that in his opinion no more aliment would be assimilated in any case than the system required. This was found to be the case with the absorption of oxygen by the blood contrary to the views formerly held, and he thought that the same rules would hold good in regard to alimentary substances. Even if more were absorbed it would be promptly thrown off as excrementitious material, and would not constitute a hyper-alimentation or hyper-nutrition.





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1878